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ABSTRACT

Trends and issues in the shift of four-year colleges and universities in adding associate degree occupational programs are considered. After a brief historical overview, the status of occupational programs at four-year institutions is discussed, with emphasis on the patterns of organization at various irstitutions. The shift in mission of the four-year institution is examined in light of its potential impact on community colleges. The following issues are addressed: admissions policies, the dominance of liberal arts influences, the two-plus-two concept (a technical two-year curriculum articulated with a two-year upper-division baccalaureate program), the adequacy of student services, coping with learning deficiencies, the labor market focus, granting credit for occupational experience, and the formation of a new relationship with nontraditional segments. It is contended that the movement of the higher education community into occupational programs will be met either through self-initiated articulation or state-imposed regulations. It is concluded that the redirection of the institution's faculty, the revision of the curriculum, the redesign of the support system, and the reallocation of resources are all required in the process of adopting an occupational education focus. These questions must be considered as states reassess their master plans in higher education due to shifts in enrollment patterns. A 66-item bibliography is appended. (PHR)

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Occupational Programs in Four-Year Colleges: Trends and Issues

Dale F. Campbell and Andrew S. Korim

AAHE-ERIC/Higher Education
Research Report No. 5, 1979

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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Preface

Beginning with a historical perspective, Campbell and Korim present an overview of emerging trends and issues as four-year colleges and universities commit resources to offering two-year associate degree occupational education programs. Among the issues addressed are: shifts in institutional mission, uses of limited resources, responses to an unfamiliar clientele, and institutional capability to offer new kinds of services.

Enrollment increases in community colleges, particularly in occupational education programs, are currently being linked to simultaneous enrollment decreases in the traditional liberal arts programs at four-year colleges and universities. The connection between enrollments in two-year and four-year colleges has yet to be proven; however, if there is a connection, and if "market" were defined as all college students, it might reasonably be claimed there has been a total market-share shift in higher education, and that the shift has been toward community colleges and the associate degree.

Serious consideration must be given to the possibility that higher education is not dealing with a market-share shift at all but with a totally new market for educational wares. It also appears that a significant number of four-year colleges and universities subscribe to the view that higher education is dealing with two separate and distinct markets, one declining while the other expands. The response of four-year institutions has been to embark on diversification strategies. By offering two-year occupational education programs, the four-year institutions seek to compete in a new marketplace. The baccalaureate-degree granting schools, currently positioned with a stable proportion of a declining market, are increasingly diversifying to gain entrance to an arena that once was the exclusive domain of the two-year institutions.

The application and use of the two-year instead of the four-year degree is one of the differentiating characteristics of the new educational clientele. Associate degrees, especially in occupational education, enable a student to: enter employment fields at an earlier date; continually exercise occupational choices without substantial time investments; finance baccalaureate degrees through well paying transitional jobs; and remain current in chosen occupations. There is

clear evidence that students in occupational programs in two-year colleges have novel demands, disparate needs, and a wide range of characteristics that further distinguish them from the baccalaureate degree-seeker.

In this monograph, Campbell and Korim raise penetrating questions about the mission of higher education institutions. Noting that business and industrial organizations have long since learned that major organizational disturbances are inherent in change, they examine the extent to which educational institutions are prepared to accept and to undertake the internal adjustments necessary to launch a successful diversification venture. The compilation of data presented in this monograph has been long overdue.

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Community and Junior Colleges

Foreword

A constant in the history of higher education in this country has been the changing nature of the curriculum. Today the curriculum is still changing but these changes may now be as much a result of internal as of external pressures. One external pressure is to make the curriculum more sensitive to the occupational life of the institution's graduates; one internal pressure is the desire to survive.

Because of the decreasing number of high school graduates, new institutions as well as new curricula cannot be formed without threatening the existence of those already in place. An example is four-year institutions that are beginning to offer two-year occupational programs, traditionally the province of the junior and community colleges. The controversy that surrounds this new trend prompted the ERIC Clearinghouse on Higher Education to join with the ERIC Clearinghouse for Junior Colleges to prepare this Research Report. Dale F. Campbell, Dean of Occupational Instruction at Vernon Regional Junior College, and Andrew S. Korim, Provost, Community College Component, West Virginia State College, were asked to analyze the literature and identify the trends and issues that are the crux of this curriculum change. While admittedly writing from the perspective of the two-year institution, they have produced a report that helps to clarify and sharpen the issues surrounding the expansion of occupational programs in four-year colleges.

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Overview

Historically, education has had the role of flowing with the tide of human events as reflected in changes in values and lifestyles, industrial and commercial innovations, scientific discoveries, or politically inspired developments. The fact that higher education is undergoing mission revision is consistent with its heritage.

Contemporary forces of change affecting higher education include: competition from nontraditional centers of learning; impact of the career education investment that has been made in elementary and secondary school curriculums; growing interest in life-long learning; criticism of liberal arts education; changing composition of enrollments; structural changes in the labor market and in the economy. The cumulative effect of these forces of change is that both public and private institutions of higher learning are engaged in soul searching about outcomes. In some instances, colleges and universities have become defensive and instituted regressive measures; for example, some colleges simply launch a public information campaign they hope will alter public opinion. Campuses within a state system often vie with each other for students to get a larger share of the budget.

To meet demands for change, some institutions shift their mission to include new curriculums and services to new populations. Still others limit their activities to aggressive marketing of existing or slightly modified programs. Many colleges and universities have relaxed previously selective admission policies. Shulman (1976, p. 35) pointed out that senior colleges that lower their admission standards to attract students who would otherwise go to nearby community colleges must also be prepared to meet the special needs of these students. There has been a shift in the curriculum to more pragmatic occupational-oriented programs of study in the form of inverted degrees and bachelor degrees in applied arts and sciences.

A primary source of momentum for change has been fluctuation in enrollment figures. In the past decade, enrollment of postsecondary students in occupational curriculums has been phenomenal. Postsecondary enrollments increased over 800 percent from 1965-75 and over 1,200 percent from 1963 to 1975. The increasing number of students enrolled in occupational associate degree programs is taking place within a context of college enrollments that are decreasing, or increasing at a decreasing rate (Kuhns and Martorana 1977, p. 30).

Students continue to shift away from traditional liberal arts subjects to areas that offer more direct career preparation. In a study by Glenny from 1968 through 1974, more than half of the institutions offering courses in vocational/technical fields reported increased enrollments, while there were decreases in the traditional liberal arts enrollments (Shulman 1976, p. 12). In less than a decade, a majority of students have shifted from liberal arts programs to programs with more of a career focus.

Trends indicate that by 1985, according to the Carnegie Foundation, the public community college will more than double in enrollment, whereas comprehensive colleges and university enrollment will decline slightly (Shulman 1976, p. 21.) The commitment of community colleges to career education is their major strength in attracting students (Woodbury 1976, pp. 8-9). Over the last ten years, community colleges have generally increased in status relative to the universities, which at first barely acknowledged their existence but now consider them a serious partner and, at times, a serious rival (Gross 1974), p. 7). Perhaps nowhere has this been felt more than in the traditionally liberal arts-oriented four-year institutions.

Many state colleges that once confined their mission to the baccalaureate degree and master's degree now include courses at the associate degree level. Haywood (1974, p. 685-688) reported on eleven four-year colleges and universities that were offering associate degree programs, some for the first time. He attributed part of the new interest to growing community pressure from industry and business groups and from part-time adult students who see the two-year degree as an attainable goal providing marketable skills. Declining enrollments were also a primary consideration.

West Virginia is a case in point. The Board of Regents recently came into focus in the newspaper as plans to cut college liberal arts programs and to strengthen career training over the next five years were revealed, noting that in recent years the needs and interests have centered on programs that lead to career opportunities. The Board of Regents justified its plans to move away from the liberal arts as a reflection of this trend. As an integral part of the changes in higher education in West Virginia there is envisioned an expansion of two-year community college programs, some of which are organized as components of four-year colleges (Hartzell 1979).

Harris and Grede (1977, pp. 89-91) provided six basic reasons for the movement of four-year colleges as a group to extend activity more aggressively into middle-manpower, associate-degree occupational pro-

grams. Although the underlying considerations cover a wide range, the potential for increased enrollments permeated most of the reasons.

This new shift of four-year colleges and universities in adding associate degree occupational programs has raised questions concerning the implications of this trend. As enrollments continue to decline and as the financial state of many four-year colleges become an increasingly acute problem, the tendency toward the expansion of occupational programs in four-year colleges seems destined to take on new significance.

When occupational programs are introduced, the end result is not always compatible with the capabilities of the institution. Nor are the desired benefits immediately forthcoming. The redirection of the institution's faculty, the revision of the curriculum, the redesign of the support system, and the reallocation of resources are all required in the process of adopting an occupational education focus. Often these imperatives are not understood by the administrative staff, the faculty, and the governing board of the institution. Consequently, a number of issues become a matter of debate within the institution that sometimes overflow into the public arena. The major issues that raise themselves for consideration relate to the factors leading four-year colleges to expand their mission to include associate degree programs, the impact this expansion has on the character of the original four-year college, and the impact it has on the higher education community in general. These questions must be considered at a time when many states are reassessing their master plans in higher education due to shifts in enrollment patterns.

Status of Occupational Programs in Four-Year Colleges

Traditionally, area vocational-technical schools, technical institutes, and community/junior colleges have been the original sponsors of occupational degree programs, as well as the prime forces in the nation in offering associate degree programs (Kuhns and Martorana 1977, p. 33). Occupational programs are those that end in specific jobs and whose time-frame is two years or less rather than four years or more.[1] These programs are offered not only at community colleges but also at proprietary schools and an increasing number of four-year institutions (Norris, Lasher, and Brandt 1977, p. 16).

The involvement of four-year institutions in middle-manpower occupational programs in some cases has also been long-standing. These include most of the agriculture and mechanical universities and specialized colleges like California Polytechnic State University at San Luis Obispo, Ferris State College in Michigan, Rochester Institute of Technology in New York, and University of Wisconsin at Stout (Harris and Grede 1977, p. 89).

However, it has been only recently that four-year colleges have moved rapidly to expand their offerings in less than baccalaureate occupational programs (Haywood 1974, p. 683). Among those leading the expansion are about one-half of the membership of the American Association of State Colleges and Universities (AASCU), which includes 325 state colleges and universities with a combined enrollment of approximately two and one-half million students. The institutions award 45 percent of the baccalaureate degrees granted by public institutions and enroll approximately 25 percent of the total national student population. All are publicly assisted, four-year institutions with a commitment to educational opportunity and to regional and state public service. Most were founded as teacher colleges and evolved in recent decades from single-purpose to comprehensive institutions. Program offerings range from master's and doctoral programs to postsecondary associate degrees and technical vocational programs leading to a certificate (AASCU 1978, pp. 3-4).

[1]The term occupational education is used in this monograph to denote all organized programs of postsecondary study that combine portions of technical, manipulative, general, and elective courses to prepare the student for employment upon successful completion (Thornton 1972, p. 180). References to occupation, vocational-technical, and career education are used interchangeably in the narrative.

A portion of the membership of the National Association of State Universities and Land-Grant Colleges (NASULGC) is also active in associate degree occupational programs. NASULGC membership includes 142 major public universities in the United States, Guam, Puerto Rico, and the Virgin Islands. It is the oldest of the higher education associations (Council for Advancement and Support of Education 1978, pp. 12-13).

The National Center for Education Statistics listed some 463 four-year colleges and universities offering both associate and baccalaureate degrees in 1971 (Hooper 1973, p. 11)[2]. However, a little more than seventy-five percent (32,461 of 42,771) of the associate degrees awarded by four-year institutions in 1974-1975 were classified as occupational curriculums (Baker and Wells 1977, p. 12). A 1975 study of the membership of the American Association of State Colleges and Universities and the National Association of State Universities and Land-Grant Colleges found that over half of the 400 institutions participating in the study offered less than baccalaureate technical programs. Since 1967, the number of institutions offering these programs increased 64.9 percent (114 to 188) and the increase in number of additional programs was over 242.9 percent (619 to 2,123) (Eastern Kentucky University 1976, p. 40).

Patterns of Organization

The four-year college involvement in occupational programs is not limited to the integration of associate degree programs into the campus-based baccalaureate curricula. Organizational patterns and settings vary from state to state. The focus here will be on four-year colleges which chose to separate the programs either geographically and/or organizationally. Such programs are usually offered through a branch campus, extension center, or are even referred to in some states as community college components of the parent four-year institution.

Podolsky and Smith (1978, p. xv) define branch campus as:

> a campus of an institution of higher education which is organized on a relatively permanent basis (i.e., has relatively permanent administration) which offers an organized program or programs of work of at least two years (as opposed to courses), and which is located in a community different from that in which the parent institution is located. Being in a community different from that of the parent institution means that a branch is located beyond a reasonable commuting distance from the main campus of the parent institution.

[2]Due to a reclassification in data collection, a later figure to compare growth was not available.

In 1976-77 there were 1,213 public institutions within higher education. If branch campuses were counted as separate institutions, the U.S. total in the public sector would rise to 1,455. Of these institutions, there were approximately 106 branches in four-year and 96 branches in the two-year colleges (Grant and Lind 1978, pp. 104-105).

Since 1972, NCES began an alternate method of aggregating institutional data that makes it possible to group two-year branches of multicampus universities and two-year branches of other four-year institutions with the independent two-year institutions rather than with the parent institution (Baker and Wells 1977, p. 29). The authors requested an analysis of the summary data of associate degree occupational programs in four-year colleges of NCES for inclusion in this monograph, but the data was not provided for publication. Consequently, the scope of these offerings cannot be thoroughly summarized.

The American Association of Community and Junior Colleges includes in its annual directory enrollment data, where possible, on the two-year operations of four-year colleges. However, many of these two-year operations do not operate as discrete entities and choose not to be members or are not eligible for membership in the association. Consequently, they often are unable or not interested in reporting statistical information to the association (Fontelle 1979).

Medsker (1960, pp. 309-311) found the following generalizations are applicable regarding extension centers or branch campuses, as compared to junior colleges: first, the curriculum is generally narrower; second, the parent university dominates the standard of work and curricular decisions; third, extension centers generally lack financial stability and are substantially self-supporting through tuition and fees; and fourth, they do not democratize higher education, since they have higher tuition and fees than junior colleges.

Gross (1974, p. 6) states that extension services of most universities offer only geographical proximity, not low tuition or a wide range of services or a variety of general and technical courses. Extension centers also carry directly and indirectly the burden of research expenses of the main campus.

In a comparative analysis of communications between public two-year branches of state universities and independent public two-year colleges, Campbell (1963) found that decisionmaking was vested primarily in the dean of the branch campus as the central contact to the main campus, whereas independent junior colleges spread the decisionmaking among the responsible administrators.

Corfias (1967) found in a comparative study of public two-year in-

stitutions in Ohio a mixture of two-year operations and obvious variations in mission, funding, and governance. The Ohio system includes university branches, community colleges, technical institutes, and technical colleges, with the university branches usually confining their offerings to a single occupational area.

Extension centers do provide greater access to students, usually on a commuting basis, than would be possible through only the main campus; however, the control by the main campus of the extension center limits the extent to which it can be responsive to local community needs (Blocker, Plummer, and Richardson 1965, pp. 37-38).

The state of New Mexico is one example of a system that has branch community-college campuses that are governed by a parent four-year college. Esquibil (1974) found that such branches can reduce the pressures for the establishment of separate community colleges and through their decentralized locations gain legislative friends for the university at budget time.

Other states having a system of two-year branch campuses of the four-year institution include Louisiana, South Carolina, and Wisconsin, to name a few (Lombardi 1975, p. 28). Some of these offer only the traditional transfer curricula and have little or no involvement in occupational programs (Medsker 1960, p. 309). The Carnegie Commission (1970, p. 25) found also that the curricula tends to be academic, patterned after that of the main campus, and requires the same admission standards. The branch campuses also tend to compete with the community colleges for the allocation of state funds and are not widely regarded as a desirable model for the two-year institution. Two other states that recently considered a revision of their four-year college branch campus structure were Alaska and Kentucky.

Alaskan community colleges grew out of university extension centers, whose philosophy is still strong in the colleges. A 1974 report prepared for the Interim Committee on Higher Education of the Alaska legislature stated that occupational programs have not received as much emphasis as needed, with funding patterns favoring the transfer curricula. The report recommended that certain defined limits of autonomy be allotted to the colleges to allow them to respond quickly to local needs (McLean 1974). *The Chronicle of Higher Education* recently reported on the continued conversion of the University of Alaska extension centers at Kotzebue and Valdez into community colleges and the expansion of their service areas in an effort to be more responsive to local needs (8 January 1979, p. 2).

In the Kentucky system of higher education, all of the four-year

public universities offer two-year, community-college-type programs. The largest number of occupational programs is offered by Eastern Kentucky University, with 32 two-year programs. Three of the seven four-year institutions have established on-campus community colleges as an integral part of the administrative structure. All of the four-year institutions administer the two-year programs as part of the existing academic division/department. The dean or director responsible for the community colleges provides coordination but has no administrative control. Students are considered regular students of the university and are taught by the same faculty except in a few specialized programs (Kentucky Council on Higher Education 1977, pp. 2-3).

Concern developed over the organization of the Kentucky higher education system, which includes thirteen community colleges and technical institutes of the University of Kentucky Community College System and the two-year programs of the four-year universities. The directors of the community colleges report to the University of Kentucky Vice President for Community Colleges, who in turn reports to the President of the University of Kentucky. The Council for Higher Education in 1976 initiated a study of community college education in Kentucky to ascertain the comprehensiveness of the system and consider the organizational structure (1977, pp. 2-5).

Recommendations that emerged from the study relative to community colleges in four-year institutions were too extensive for a complete review, but most noteworthy in terms of this study is the recommendation that each four-year university should designate a separate organizational structure with the prestige and authority to effectively administer the programs. Separate funding and record systems were also recommended to insure proper levels of funding and to permit data comparisons for greater accountability. A slight majority of 50.1 percent of the faculty surveyed preferred continuation of the Community college as part of the University of Kentucky system to alternate forms of possible reorganization (1977, pp. 29, 33). To date few significant changes in the structure have occurred as recommended in the study.

A system somewhat similar to Kentucky's four-year college involvement in associate-degree occupational programs also exists in the state of West Virginia, even though the freedom of development in West Virginia appears to be more restrictive than in Kentucky. Concern over the potential duplication of efforts Kentucky found (1977, p. 25) might have been one of the reasons that prompted Mills to undertake a comparison of the goal perceptions of free-standing community colleges and those of community college components of four-

year institutions in West Virginia. However, Mills' research of the West Virginia system (1977, p. 144-145) led him to conclude that a separate administrative structure would be more compatible with the mission of the community college components than the organizational structure that exists. Mills noted that:

> community colleges organized as components within the organizational structure of four-year institutions in West Virginia are not likely to be able to provide a fully functioning program to accomplish generally accepted community college goals. . . . The Board of Regents of West Virginia should renew its efforts to establish a separate administrative structure . . . a more receptive attitude toward generally accepted community college goals must be developed among administrative, faculty, and student personnel groups of four-year institutions.

Deegan (1971) conducted a study to assess the degree to which an Indiana University regional campus supplemented by Indiana Vocational Technical College, fulfilled the general functions of a comprehensive community college. He concluded that the services provided were in general comparable with the significant proviso that admission requirements, costs, and priorities differ markedly from that of a community college. Deegan recommended that the state of Indiana study its system of higher education to determine if the opportunities afforded citizens of other states through community colleges are available in Indiana.

As is evident from the brief review of the status of occupational programs in four-year colleges, there is no unanimity among the respective states or colleges as to the proper organizational structure of occupational associate degree programs within four-year colleges. The renewed interest of four-year colleges in expanding their offerings to include occupational programs leads one to question what impact this mission revision will have on the college. The examination of earlier shifts in mission in the history of the community college may provide some insights on this potential impact.

Shift in Mission

Formulation of a mission philosophy is an essential step in redefining the direction of a college (Hill 1978, p. 101). Mission determination is a complex and difficult task, complicated by the traditional roles adopted by various segments within higher education. Four-year institutions and community colleges have historically had different goals, organizational patterns, and philosophies about student needs.

Mills (1977, pp. 142-143) delineates the contrasting terminology usually associated with the two institutions. The purpose of the four-year institution has generally been associated with "the dissemination of and attention to advanced knowledge, scholarly specialization, professional preparation, pure research and selectivity, (regarding student admissions). The primary purpose of the community colleges consists of "comprehensiveness, popularizing of educational, occupational-technical training and retraining, 'open door' admissions, remedial and developmental programs, career counseling and guidance, and community oriented education."

The differences between the two types of institutions are both characteristic and historic; but higher education's history cannot be considered static in nature. Blocker and Campbell (1962, p. 3) state that "institutions, regardless of their purposes, are based upon and grow out of the needs of people they serve. They are continually growing, contracting, or changing in reaction to shifts in the forces of society and the evolving attitudes and needs of individuals and groups." The development of the comprehensive community junior college is in itself one such transition.

Educational leaders of universities and colleges had strived for many years to separate the first two years of post-high school education from the university (Mills 1977, p. 142). This laid the foundation for the birth of the comprehensive community junior college.

In 1970, the Carnegie Commission (pp. 15-23) recommended a series of goals for the development of the college. One recommendation that emerged from the study was that the two-year institution be preserved: ". . . public two-year community colleges should be actively discouraged by state planning and financial policies from becoming four-year institutions. . . ." There was concern that if this change occurred there would be less emphasis on occupational programs that

would leave an unmet need in the community. Many early leaders in the community college movement maintained that occupational education should be the college's primary mission (Lombardi 1978, p. 1); however, between 1962 and 1967 twenty-seven junior colleges made the transition to a four-year institution (Morrison 1966, p. 442).

Schroeder (1967, pp. 237-248) listed seven factors key to this transition, including: first, a belief in the need for the proposed programs; second, the desire for prestige; third, the possibility of increased enrollment and financial support; fourth, local community support; fifth, encouragement from consultants; sixth, support from local political leaders; and seventh, the growth of competing institutions.

It is ironic that the reasons cited by Schroeder a little more than a decade ago are today all plausible reasons for the movement of four-year colleges to add associate degree occupational programs. Harris and Grede (1977, pp. 90-91) cite six other reasons for the interest of four-year institutions in associate degree programs: first, the decline in the numbers of traditional college-age youth; second, doubt of the legislatures about the effectiveness of liberal arts programs in the public movement toward accountability; third, unfilled dormitories whose payment schedules were designed around near capacity; fourth, potential for vertical articulation to continue for the baccalaureate degree; fifth, lowering of admission requirements; and sixth, student demands for career-relevant programs with brighter job prospects.

Midwestern State University in Texas is an institution whose mission has evolved with the changing forces of the community. Founded in 1922 as a junior college, Midwestern became a university in 1950, then dissolved the junior college division in 1961 (Midwestern State University 1978, p. 7). But after experiencing a recent decline in enrollment, Midwestern displayed a renewed interest in associate-degree occupational programs by adding three since 1975 (Hughes 1979, pp. 1-5).

Gross (1974, pp. 1-8) proposes a model capitalizing on the strengths of the community college in changing a four-year institution into what he calls a Communiversity. The shift in goals of the four-year college would assist the institution in the areas of overstaffing, overproduction of graduate degrees, and lowering freshman enrollments. He states that this would be seen as an opportunity for job improvement by community college faculty and administrators. His concept of a communiversity would: (1) be located within commuting distance; (2) run a full program from early morning to late evening; (3) charge low tuition; and (4) give equal status to academic and non-academic credit.

Concern exists in Gross' proposal as to whether a communiversity or public community colleges organized as institutional components of senior institutions would be able to accomplish the generally accepted goals of a community college (Mills 1977, p. 5).

Gross (1974, p. 2) stated that the general feeling on the transition of junior colleges to four-year institutions in the sixties was that "the two institutions are so different in purpose and emphasis that most marriages between them would be ill advised." The same might now be said of the four-year institutions who are thinking of embracing the community college philosophy and offering occupational programs.

A significant segment, 85 percent (180 of 212) of the 400 AASCU and NASULG members responding to the study cited earlier, did not plan to add technical programs either because technical education was a function delegated to other state institutions or was inconsistent with their institutional purposes. However, 91 institutions indicated that they intended to add additional programs or expand 334 less-than-baccalaureate programs before 1980 (Eastern Kentucky University 1976, pp. 20-28).

In a recent report to the Panel on Association Vitality, Edmund J. Gleazer, Jr., president of the American Association of Community and Junior Colleges (1979), in a survey of chief executive officers of member institutions, reported that encroachment by four-year colleges was identified as one of the most critical issues facing the community/junior college today.

Potential Impact

A shift in any mission is not without its price. Roueche (1964) presented the problems in his analysis of the transition from a two to four-year institution in a private church-controlled college. Inadequate financing, inadequately prepared faculty, and higher tuition rates were some of the factors that combined to make a relatively weak senior college out of a first-rate junior college. Schroeder (1967, pp. 249-255) also cited the problems of opposition from legislative sources, from some of the faculty, and from other colleges in their geographic region as those encountered by institutions during their transition from junior to four-year colleges. Similar problems could be anticipated with the addition of two-year programs in tradjtionally baccalaureate liberal arts institutions.

Recognizing the potential impact of the integration of associate degree programs into the operation of the four-year college or university, and the subsequent shift in goals and purposes, the American

Association of State Colleges and Universities developed a Committee on Career Education in 1976 to study the implications. A comprehensive statement was endorsed by the AASCU membership at its 16th annual meeting (1976, p. 3), which says, in part, that the addition of career education should reduce dropout rates by making instruction more relevant, increase enrollments, expand offerings for adults, encourage more articulation among departments and between other institutions, and require additional funding and greater emphasis on the use of community resources. Additionally, a significant revision in the mission of the colleges and universities may result. New staff competencies of experience in business and industry will be required. The dichotomy of liberal arts and occupational education need not but has the potential for producing tensions among faculty in different subject areas.

Persistent Issues

As baccalaureate-granting liberal arts colleges move into occupational education a number of issues surface as a result of the shift in mission. Unless the issues are faced squarely, the new directions taken by baccalaureate institutions may fall short of their mark and may result in negative reactions from students and others.

Some of the issues that need attention include:

- Disparity between the standard selective admissions heritage and the variable admissions or open admissions of occupational programs.
- The dominance of the traditional liberal arts philosophy in curriculum review committees.
- Substantive differences between the occupational education curriculum and the two-plus-two curriculum.
- Disagreement over the extent to which student services are needed to support occupational education programs.
- The assumption that students with learning deficiencies may be treated as peripheral students rather than as mainstream students.
- The lack of sensitivity to labor-market conditions as a guide for occupational education programs.
- Disagreement over the extent to which articulation with area vocational schools and secondary vocational education programs is desirable.

Each is briefly reviewed, with no attempt to assess fully the issue or to provide guidelines for resolution of the matter.

Admissions Policies

Equal opportunity has been defined by the Vocational Education Act and other legislation with increasing precision to include disadvantaged and handicapped learners. Four-year institutions that desire to move in the direction of occupational education programs may be unprepared for the impact of variable admissions or open admissions. The disparity between a selective admissions policy and a variable or open-admissions policy leaves four-year colleges without the mechanics to properly process deviations from selective admissions standards. Not only are the intake processes different, but the support system must take on characteristics that go far beyond what most four-year colleges are capable of undertaking without added financial

expense and the acquisition of new staff with expertise in these service areas. Without added services, the four-year college that seeks to address occupational education needs of new populations is severely handicapped.

Shulman (1976, p. 31) cites K. Patricia Cross as particularly outspoken about the need for institutions to recognize the distinct abilities and problems in serving the new clientele they attract. Substantive support programs and services must also be developed to effectively serve these students.

Vermilye (1972, p. x) is somewhat optimistic, however. He notes, "colleges and universities are trying to reach out to new students in new ways. The idea of universal higher education—or higher education for almost anybody who wants it—is far from a reality, but it is no longer just a dream. The doors are opening. The gap between action and intention is closing."

Civil-rights legislation is slowly forcing all educational institutions to reshape their admissions standards, instructional programs, and facilities to serve persons with characteristics previously turned away by questionable admissions practices.

Dominance of Liberal Arts Influences

The rich heritage that baccalaureate degree institutions have in the liberal arts is fully recognized by occupational educators, and the relationship between the liberal arts and the general educational development of persons is clear. However, as baccalaureate-degree institutions move into the associate-degree occupational programs, the liberal arts heritage can conflict with sound occupational education curriculum design. Almost thirty years ago, Lombardi (1951, p. 227) raised the question, "Will the university accept the vocational as equal to the academic?" He noted, "Ever since junior colleges began expanding into the vocational fields, it has had to contend with the competition of the practical with the liberal arts." The traditional liberal arts desire to concentrate on the development of a general educational background in the first two years is incompatible with the goal of preparation of students for early productive employment not requiring extensive training immediately after graduation.

Sweet (1972, p. 215), in describing Minnesota Metropolitan State College, noted that there is general belief at that liberal arts institution that nobody should be granted a baccalaureate degree who does not have competence in a vocation, a profession, or career. He observes that ". . . individuals must be able to function in the market

place . . ." whether they are auto mechanics, plumbers, doctors, lawyers, or teachers.

The faculty of baccalaureate institutions may become divided on the matter of how much occupational preparation should be provided in the occupational programs. If such a disagreement develops, this may not be without social benefit nor should it mean that the institution is in jeopardy. Outright separation in matters of curriculum design and review may be the answer. Indeed, the result may be more options for students.

The Two-Plus-Two Concept

The traditional prebaccalaureate model has served to guide the two-plus-two concept. The first two years in this case concentrate on introductory courses and articulate with an upper-division baccalaureate program.

In the associate degree occupational education programs, the desire for a highly technical two-year curriculum necessitates that the content and method of instruction be consistent with the stated objectives. Exit at the end of two years is characterized by employment in technical occupations.

The substantive differences between the objectives of the associate degree occupational education programs and the typical two-plus-two programs should be emphasized. Occupational educators do not systematically oppose articulation with the upper division of a baccalaureate degree program, but they do express concern over the kinds and number of required courses and electives that are specified or available for the freshmen and sophomores to take. Often the standard courses are introductory to basic disciplines that usually comprise the lower-division program. This is especially the case with the so-called general education courses from the liberal arts disciplines. Harris (1969, p. 75) shows concern that these standard courses do not relate to technical preparation, and notes: "Putting technical students in these courses on the grounds that they should know something of anthropology, economics, political science, etc., is tantamount to putting a social studies major into *Transistor Circuits 204* on the theory that he needs to know something about the technical world in which we live." Occupational educators believe that courses in associate-degree programs set up to produce technically competent graduates should be specifically designed to meet the needs of the technical student.

Sometimes the debate over the two-plus-two issue is created outside the college. Professional organizations often exert influences that re-

late to the bachelor's degree without regard to the limitations that this places on the associate degree. The issue becomes clouded as professional organizations impose specialized accreditation standards that may be questionable.

The Carnegie Commission in *The Open-Door Colleges: Policies for Community Colleges* (1970, p. 20) specified that occupational programs must be available to offer a wide variety of courses designed to prepare students for the world of work. The report states, "these should include two-year associate degree programs, one-year certificate programs, and short-term training and occupational renewal programs. Flexibility in the offerings must be sought so that occupational programs will adjust to changing manpower requirements and a career-ladder approach, which will enable the student to obtain more advanced training as a working adult, should be encouraged."

Although articulation between associate and baccalaureate programs is heralded as desirable, the articulation cannot be at the expense of sound preparation for employment, which is the primary objective of the associate programs. The development of technical competencies cannot be reserved for the upper division of the baccalaureate program without seriously weakening the associate program. Without clear delineation, the student becomes misled and the employers must retrain the graduate of the program.

Adequacy of Student Services

Historically, baccalaureate institutions have been well staffed in areas that relate to campus life, extracurricular activities, and other nonacademic activities, but have had a low ratio of student services staff for students in such areas as academic counseling, career guidance, and job placement. The need for student services related to the new mission and new students of occupational educational programs is not fully understood.

In a recent report, the Carnegie Council on Policy Studies in Higher Education (1979, p. 6) reported that services ranging from job placement to compensatory education to advising were perceived by students as inadequate. In particular, the study found that 33 percent of studenes who have used career advising rate it "inadequate." Academic advising did not come off much better, with 27 percent of the undergraduates rating it as inadequate.

The need for increased intake counseling, diagnostic services, vocational guidance, corrective and developmental services, and job placement services may necessitate a reallocation of resources away from the campus life and extracurricular activities to direct support

services needed by the occupational education students. Occupational education program build expectations about the transition from education to work.

Wirtz fears a "creditability showdown" if counseling and guidance cannot be improved by educational institutions. Many young people will settle for jobs other than those for which they are prepared, especially if they have a college education, and some will decide that it is fruitless to go on to college (Lehman 1979, pp. 2-6).

Coping With Learning Deficiencies

Although many occupational educators find it difficult to cope with the high-risk student who has learning deficiencies, they have historically tackled the difficult task of picking up students where they may be and moving them to their highest capabilities. The Vocational Education Act has given vocational educators an incentive to serve those persons with deficiencies by providing categorical funds for services to disadvantaged and handicapped persons.

Because of the selective admission policies of baccalaureate institutions, they lack experience in coping with diverse learning deficiencies and may view students with learning deficiencies as peripheral rather than mainstream clients. This does not mean that through expansion of foundations programs and other developmental education services that the baccalaureate institution cannot overcome its deficiencies to serve such students.

Roueche and Snow (1978) have assessed the problem and the state of the art associated with remedial education in colleges, producing a guide to developmental education in collegiate institutions. Regardless of their heritage, collegiate institutions not only have an obligation to address this problem, but have have an opportunity to salvage their operations by self-examination and retooling of the use of their resources.

Labor Market Focus

Institutional decisionmaking varies between predominantly liberal arts institutions and occupational-education institutions. A primary planning tool for associate-degree, occupational-education programs consists of labor-market data. Occupational educators pride themselves in being responsive to labor-market trends. Analyses go beyond simply supply-and-demand conditions into assessment of technological developments and structural changes in the economy.

It is a rare condition to find liberal arts programming based on such data. Occupational educators watch indicators such as job place-

ments, job retentions, and promotability. Such data are key to the development of programs to prepare technicians, paraprofessionals, and other mid-level personnel. One thorn troubling occupational educators is that programs producing bachelor-degree holders are rarely subject to the same performance standards as the associate-degree programs. The necessity of such scrutiny is questioned by liberal arts faculty, but there is growing awareness that comparable measures are desirable for bachelor-degree programs also.

Fogel and Mitchell (1974, pp. 482-484) observe that two-year colleges are more in tune with the labor market than are four-year colleges. The decisionmaking mechanism in the associate-degree institutions keeps programming from becoming unrelated to labor-market trends.

The structure in two-year colleges that accommodates articulation within the labor market is multidimensional. Advisory committees, work-education councils, follow-up studies, and noncredentialed faculty from within the labor market are among the tools used by two-year colleges. These mechanisms give two-year colleges an edge over the four-year institution in terms of interface within labor market dynamics.

Mahoney reports on an alien environment that was encountered as an education-work council was being developed in a community college operated under the aegis of a state university system. Mahoney (1979, p. 24) analzes the situation as follows:

> A rapid succession of university presidents, the university's fiscal problems, and an active "town-gown" conflict with the community reflected on the community college and reduced its capacity to effectively organize and nurture a council. The community college president strongly supported the council and participated actively on it. But the university association was too strong to overcome. To eliminate the handicap, the council broke its affiliation with the college in the middle of the second year and merged with a non-profit community organization with offices in the middle of the community.

What is not generally recognized is that two-year colleges have been in the process of infusing occupational preparation at less than professional levels into their programming for the past forty years. In 1951, Lombardi (p. 225) observed, "A major influence on the new vocational education in the junior colleges has been the development of the community college concept . . ." and education for new kinds of students.

The use of advisory committees, follow-up studies, and noncredentialed faculty from within the labor market have moved the com-

munity closer and closer to employment opportunities and have refined their labor-market focus. It may be unrealistic to expect four-year colleges to make an instant conversion to this approach.

Credit for Occupational Experience

College credit for external learning is a growing phenomenon. The American Council on Education (1979) has served to facilitate granting credit for courses in noncollegiate settings. The 1979 edition of *The National Guide to Credit Recommendations for Noncollegiate Courses* contains credit recommendations for programs sponsored by 80 noncollegiate organizations.

The actual awarding of credit based on military experience, apprenticeship training, corporate training, and experience in the world of work has been resisted. According to Warren (1978, p. 70), the awarding of credit for experience outside traditional educational settings is comparatively rare but also growing.

The problem seems to be that such credit reduces the number of degree credits to be earned at the institution and reduces actual enrollments in specific required courses. Also, some critics raise questions of the impact on the quality of such learning. Yet the granting of credit for external learning does not preclude qualitative controls over the practice of awarding such credit.

According to Abbott (1977), the awarding of college credit for apprenticeship training is a "burgeoning idea," although there is some resistance. Based on a nationwide survey of two-year colleges, 81.8 percent of the colleges that responded indicated they wanted to work with unions. There is no evidence of such an interest among four-year colleges.

Articulation With New Partners

There is an inherent relationship between occupational education programs in colleges and the various other vehicles by which occupational training takes place, whether they are secondary schools, proprietary schools, or corporate training units. Occupational educators, although not always in agreement with the competing providers of training, find it necessary to establish articulation of some form with these other sources of job training and education.

The Education Amendments of 1976 force joint planning in the area of vocational education to reduce duplication and to improve the transition of students from one level of education to another and to the world of work. Bushnell (undated, pp. 2-6) reports on a number of such efforts between secondary vocational schools and com-

munity colleges, but notes that there are a number of barriers that must be overcome, including philosophical differences, credentialing standards, legal constraints, political barriers, and funding pattenrs.

Baccalaureate degree institutions, however, tend to be highly selective as far as the linkages they establish with competitive sources of training and education. Sometimes the barriers identified by Bushnell enter the picture; on other occasions it is a matter of choice. Whatever obtains, it is extremely rare for baccalaureate institutions to concern themselves with articulation with area vocational schools, CETA prime sponsors, apprenticeship and corporate training units, and other noncollegiate operations.

Of the many issues, the question of transferability of credits earned or competencies attained in other than the traditional educational environment produces perhaps the greatest concern an[illegible]g baccalaureate institutions. One blockage seems to be the equating of learning in a nonbaccalaureate environment to college credit. In contrast, the occupational educator is less concerned with so-called "collegiate quality" than with competencies attained. Consequently, intense debate between the occupational educators and the liberal arts counterparts often errupts. In the case of transferability from secondary-level occupational education programs, Bender (1973, p. 23) found that state education officials ranked baccalaureate institutions relatively low as the locus of transfer problems with secondary-level programs.

If the conflict could be resolved, collaboration with nontraditional segments, such as area vocational schools and corporate training centers, could result in added enrollments, greater returns from resources, and expanded social benefit.

Harris and Grede (1977, pp. 94-96) maintain that the problems of destructive competition and disgraceful recruiting policies that occur in this era of declining enrollment will be solved either through self-initiated articulation or state-imposed regulations. The general public, the state boards of higher education, and legislative appropriations committees will not permit the duplication of these services. The Proposition 13 era will force public resources to be used in an efficient and judicious manner. Harris and Grede (1977, 94-96) believe that four-year colleges should concentrate on providing two-plus-two career-ladder programs providing upper-division advanced programs building on the associate-degree programs of the community/junior colleges, technical institutions, and area vocational-technical schools. New two-year programs should not be started just to use empty facilities or retain faculty due to falling enrollments.

Morrison (1966, p. 443) was one of the few writers of the sixties to suggest that the state coordinating agency should have a role in deciding whether or not to approve mission revisions prompted by the transition of junior colleges to four-year college status. The limited resources today's citizen is willing to allocate to publicly financed higher education has prompted renewed calls for statewide coordination and control.

Woodbury (1976, p. 11) states that:

> mission statements for postsecondary institutions mandated by the state after proper input are a necessity if (1) a diversified educational system is to be preserved, (2) public funds are to be targeted to properly support public education, and (3) equality of educational opportunity and access is to be provided. It is then not so much a question of the quantity of tax dollars spent on postsecondary education, but how and where they are spent.

In states such as California and Texas, where master plans have defined the role and scope of the various segments of higher education, there has been little or no expansion of associate-degree occupational programs in four-year colleges. In Texas, for example, a four-year public college may not add associate-degree or certificate occupational programs until they can prove that the community/junior college cannot meet and does not desire to meet the local needs in the area. The curricula of the four-year colleges and surrounding

community/junior colleges do not overlap except in lower-division transfer work. The Coordinating Board Texas College and University System has program approval authority for all new programs initiated by colleges in the state. If a program is vocational-technical in nature, it must also be reviewed by the Texas Educational Agency. The general policy regarding the approval of less-than-baccalaureate programs in senior institutions states that one- and two-year occupational programs should be delivered primarily by community/junior colleges due to their specialized mission, local governance, and student support services. Exceptions to this rule are considered only if:

> (1) There is no community junior college within a reasonable commuting delivery distance which can provide the proposed program(s) within a designated time period; (2) The potential for cooperative agreement between area junior colleges and senior institutions, involving shared use of resources has been fully explored; and (3) The proposed senior institution possesses faculties, on-campus facilities, and/or other resources to offer particular specialized programs which are not feasible or desirable on the part of community colleges.

In addition to the normal criteria for occupational-type program approval of demonstrated employment opportunities, student interest, and adequate physical facilities and financing, the criteria states:

> . . . special support services normally afforded students in similar programs in community junior colleges will be provided. These include, but are not limited to:
> (A) "open" admissions (where applicable); (B) a continuing program of counseling and guidance; (C) financial aids; (D) compensatory (developmental) education; and (E) placement services and follow-up activities (Coordinating Board Texas College and University System 1978, pp. 11-1 to 11-2).

Thus, through the State Coordinating Board Texas seeks to establish and enhance the distinctly different missions of the four-year and community/junior colleges while maximizing use of the state's educational resources.

Under the Coordinating Board rules, which were first effective January 1, 1976, Midwestern State University (MSU) in Wichita Falls, Texas, added its final associate degree program in computer programming in 1978. Occupational programs for the area are now offered by Vernon Regional Junior College (VRJC) in cooperation with Midwestern. In one program, the junior college uses the facilities of Midwestern for an associate-degree program in child development. The occupational courses are taught at Midwestern by VRJC with MSU offering the general academic courses through their regular schedule.

This was the first cooperative program developed in Texas of this scope. The institutions are also members of the North Texas Skills Center, a consortium of all area educational institutions and agencies using a refurbished building owned by the Wichita Falls Independent School District, working cooperatively to meet the occupational manpower training needs of the city (Hughes 1979, pp. 1-5).

Such are the new and different delivery systems for postsecondary education that have been emerging in the past five years. They include consortial community colleges tying together existing two- and four-year institutions, including proprietary, public, and private, to better use existing human and physical resources (Woodbury 1976, p. 14). Cooperative programs facilities planning, and degree programs, as detailed above, are more widely seen today. Institutions that have pioneered in these areas are Maine Vocational Technical Institute, University of Maine at Portland, Korham (Pressley, 1975) and Harpur College of the State University of New York at Binghamton and Broome Community College in New York (Shea and Stannard, 1977). Such efforts, however, need further refinements and developments by practitioners in the field before being mandated by the coordinating agencies and state boards.

Bushnell (undated, pp. 3-4) stated in the AACJC/AVA Joint Study on Cooperation in Vocational Education that despite declining enrollments and the lack of coordination among and between institutions, with the persistent rise in costs, cost-conscious taxpayers and legislators will demand both accountability and better program coordination. Vocational educators have begun to realize that without precise definitions of the roles of various types of instiutions to differentiate among their distinct missions, vocational educational will lose its strength and credibility with the public.

Cosand (1975, p. 32) perhaps best states the case for the need of a diversified system of higher education:

> The individual institution . . . must develop a set of objectives focused on its mission, student clientele, and service responsibilities . . . coordinating devices also help offset needless duplication and competition, which may produce, not symbolic parity, but undesirable homogeneity and weakness. To meet the diverse needs of the nation's diverse student clientele, we must maintain a diversity of institutions with well-stated, attainable and adhered-to objectives.

As stated earlier, the choice of the higher education community in meeting the expansion of four-year colleges into occupational programs will be met either through self-initiated articulation or state-imposed

regulations. Perhaps Texas provides a clue to future trends in this area, where state coordination provides the necessary incentive for articulation and interface of occupational program development at the local level.

Conclusions and Recommendations

One of the major purposes of this monograph is to focus attention on the future direction and scope occupational programs should take in four-year colleges. Throughout the study, recommendations from the literature have been reviewed and some general recommendations have emerged in the areas of (1) institutions contemplating mission revision, (2) colleges with existing programs, and (3) research needed in the field.

When occupational programs are planned for introduction into a traditionally liberal-arts-oriented baccalaureate institution, the administrative staff, faculty, and governing board must be prepared for a significant reallocation of resources if the mission revision is to succeed. The following set of questions developed by Morrison (1966, p. 443) for junior colleges contemplating upward extension to four-year colleges are applicable, with minor modifications, for today's four-year colleges considering the addition of associate-degree occupational programs:

- Will this change alter the main objectives of this college?
- Are the additional services already available in the area?
- Can additional funds needed be provided (without diverting resources from existing baccalaureate programs)?
- How many faculty members are at present adequately prepared (and have recent work experience to teach in the occupational program)?
- How long has the transition been studied? Has the study resulted in a developmental plan?
- What are the advantages of this plan for student services and curriculum development?
- Has preliminary discussion been held with the state coordinating agencies and regional accreditation agencies?[3]

As reported earlier, Harris and Grede (1977, pp. 94-96) recommend that four-year colleges should concentrate on providing two-plus-two career-ladder programs, providing upper-division advanced work building on the associate degrees of community junior colleges, technical institutes, and area vocational-technical schools. Cosand (1975, p. 32) also believes that the current diversity of America's higher education

[3]Items in parentheses modified to be applicable to four-year colleges adding associate degree programs.

system should be maintained. The same rationale that led the Carnegie Commission (1970, pp. 15-16) to recommend that the two-year institution be preserved and dissuaded from expanding to a four-year college is just as applicable now in recommending that public four-year institutions "should be actively discouraged by state planning and financial policies" from adding less-than-baccalaureate occupational programs. State planning and financial policies should instead encourage cooperative degree programs using the characteristic strengths of the diversity of institutions within higher education (Hughes 1979; Woodbury 1976; Pressley 1975; Shea and Stannard 1977).

Four-year colleges that have existing less-than-baccalaureate occupational programs should undertake periodic self-studies and external consultant evaluations to assess their performance on confronting the persistent issues of administering effective occupational programs within four-year institutions. The evaluation should encompass but not be limited to the following areas:

- *Admissions Policies*—provides for variable or open admissions with substantive support programs and services to effectively serve the new students.
- *Curriculum*—designed to prepare students for early productive employment—not dominated by the traditional liberal arts philosophy nor unduly molded to articulate to the upper-division baccalaureate program.
- *Student Services*—possesses experienced staff and services in the areas of initial counseling, diagnostic services, career guidance, academic advising, corrective and developmental services, and job development and placement.
- *Developmental Education Services*—possesses substantive support programs and services to serve students needing remediation in basic skills through organized human development programs.
- *Labor Market Focus*—effectively uses advisory committees, work-education councils, and follow-up studies of students and employers.
- *Credit for Occupational Experience*—provides an effective mechanism for the award of credit for prior experience.
- *Articulation*—promotes effective linkages with area vocational schools, CETA, apprenticeship, and corporate training units.

Most of the areas reviewed above are characteristic of the comprehensive community college philosophy of open admissions, adequate support services in counseling and guidance, financial aids, developmental education, and placement and follow-up activities. These

special support services are required in Texas of four-year institutions petitioning to award occupational programs (Coordinating Board, Texas College and University System 1978, pp. 11-1; 11-2).

Mills (1977, pp. 144-145) states that the implications are clear for decisionmaking where community college programs are administered within the four-year institutions. Attention should be given to the employment of personnel with training and experience in the community college and to a comprehensive orientation and in-service training program to insure that all personnel are knowledgeable and supportive of the community college philosophy.

The movement of the occupational component towards a comprehensive community college philosophy will also require some autonomy and leeway within the organizational structure. The Kentucky Council on Higher Education (1977, p. 33) recommended that four-year institutions offering two year programs ". . . designate an organizational unit (establish a separate organization structure) for the administration and coordination of those programs." This structure would also include distinct record and data collection to provide accurate cost comparisons and enrollment data needed to effectively administer the occupational programs.

The addition of associate-degree occupational programs and a separate organizational structure may be the first step within the four-year institution in moving toward a fully functioning "community college component" of the institution. But, can the metamorphosed, publicly supported four-year college effectively embrace the community college philosophy? This shift in mission may have serious consequences for the functioning, stability, and endurance of the four-year college. Earlier studies have indicated that when two-year collegs have expanded to four-year colleges, the functions and goals normally ascribed to the college tend to either atrophy or be sloughed off by the college itself (Gott 1968, pp. 13-16). Further research is needed to determine if this also holds true for four-year colleges attempting to fulfill the mission of the community junior college.

The development of a specialized literature and research base is vital to the progress and function of existing occupational programs within four-year colleges and institutions contemplating a shift in mission. The current limited information, despite growing significance, warrants the following considerations:

- The National Center for Education Statistics should resume classifying associate-degree occupational programs in four-year institutions to establish future trends and a solid data base for research.

- University centers for the study of higher education, publishing houses, and journals should encourage research relevant to effective organizational patterns of occupational programs in four-year colleges.
- Leaders concerned with postsecondary occupational education, such as the Council for Occupational Education, should make every effort to provide linkages for sharing expertise for staff development and evaluation among practitioners in the field.
- AACJC and AASCU should seek grant funds to undertake a joint articulation study between community junior colleges and four-year occupational programs similar to the Bushnell AVA/AACJC study to promote increased cooperation in postsecondary occupational education.

Despite the fact that the expansion of occupational programs in four-year institutions has been one of the most significant shifts in higher education this decade, the output of the educational process is the key to successful occupational programming. This may be defined in terms of learning, knowledge, performance, competence, and placement of graduates in jobs (Harris and Grede 1977, p. 96). Looked at in this light, the delivery mechanism takes on secondary importance. As educators and citizens, we must also insure that our system of higher education is organized and administered for the most effective and efficient output of the process.

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